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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-2334P
Plant ID No.:	029-00008
Applicant:	Ergon - West Virginia, Inc.
Facility Name:	Ergon - West Virginia, Inc.
Location:	Newell
SIC Code:	2911
Application Type:	Modification
Received Date:	March 29, 2010
Engineer Assigned:	Edward S. Andrews, P.E.
Fee Amount:	$1000.00
Date Received:	March 29, 2010
Completeness Date:	May 5, 2010
Due Date:	August 3, 2010
Newspaper:	*The Weirton Daily Times*
Applicant Ad Date:	April 1, 2010
UTMs:	Easting: 531.0 km Northing: 4,495.1 km Zone: 17
Description:	This application proposes to load Appalachian Light Sweet Crude (ALSC) oil into barges using the facility's existing marine loading dock.

DESCRIPTION OF PROCESS

Ergon – West Virginia, Inc. (EWVI) is request to load crude oil at the Newell facility. This modification will affect emissions from Tanks 4060, 4061, and 4062 and the Marine Loading Dock. Currently, these tanks are permitted for the storage of crude oil at a throughput of 6,667 barrels per day (bpd) each. EWVI is proposing to increase the throughput in Tanks 4060 and 4061 from 6,667 bpd to 10,000 bpd. In addition, EWVVI is requesting to adjust the

throughput in Tank 4062 from 6,667 bpd to 4,500 bpd. EWVI's Marine Loading Dock is not permitted for the loading of crude oil. This application is requested that allowed for the transfer of crude oil onto barges through the dock.

SITE INSPECTION

On November 12, 2009, Mr. Steve Sobutka, P.E., Compliance and Enforcement Engineer assigned to the Northern Panhandle Regional Office, observed performance testing being conduct at the Newell Facility. Mr. Sobutka reviews numerous compliance reports from the facility, which the most recent being the CMS Report for the 1st Quarter of 2010. As result of this review, Mr. Sobutka, P.E. found the facility to be operating in compliance.

This modification request will not require the installation of new or additional equipment/emission units or entail any physical change to the existing equipment at the facility. Therefore, a site inspection for this permitting action is deemed unnecessary.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions generated or potentially released due to this proposed modification are from breathing losses and working loses of volatile organic compounds. In the past, Ergon's oil gathering operations has been collecting and treating the ALSC as typical crude oil. Thus, all of the collected crude oil, include ALSC, has been storage and allowed to be mix together using the same storage vessel. Because the oil and gas development in the Appalachian Region has been focusing on extracting natural gas out of the Marcellus Shell formation, Ergon is expects that these Marcellus Shell natural gas well may yield significant amounts of ALSC oil with the natural gas.

The Newell Facility refines crude into a specific grade of products. Ergon has determine that the Newell Facility cannot refine the continuously refined its products within their

customer's specifications using crude oil with a significant amount of ALSC. ALSC has some psychical properties that are very different that typical crude oil. One is that ALCS has less hydrogen sulfide (less sulfur) than typical crude oil. The other is that ALCS has a higher vapor pressure. Having a increase in vapor pressure of a storage liquid will increase the potential of VOC emissions from any storage tank storing ALCS.

Ergon's oil gathering will begin to separating the ALCS from the other crude oil that it collects in this Appalachian region. The collected oil in this region is ship to the Newell facility by tanker truck, pipeline or barge. To keep the ALSC separated while stored at the Newell Facility, Ergon is decating Tank 4062 to storage of all of the ALSC at the facility.

Currently, Tank 4062 is permitted to have a crude oil throughput of 6,667 barrels per day (bpd). By resisting Tank 4062 to have a throughput of 4,500 bpd of ALSC or any other crude oil that has a higher than typical vapor pressure. The remaining crude oil tanks at the facility will need to have their permitted throughput limits increase. Ergon has proposed to increase the permitted crude oil through of Tanks 4060 and 4061 by 3,333 bpd for each vessel.

Ergon used U.S. EPA Tanks 4.09d to estimated VOC emissions from the proposed changes to Tanks 4060, 4061, and 4062. This writer repeated these estimate for the storage tanks using the latest version of the Tanks program. The great difference between repeated results and the applicant's estimates was 0.13 pounds of VOCs per year. These proposed changes these three storage tanks would results in a potential increase of 6.29 tons of VOCs per year.

At the marine loading dock, Ergon is proposing to load crude oil into barges in addition to the currently permitted products (gasoline, diesel, kerosene, and lube oils). Ergon is proposing the quantities for the various products as shown in the following table.

Table #1 – Marine Loading Dock Emissions					
Product	Quantity Loaded (M gals/yr)	Vapor Pressure (psia)	Loading Losses (lb/Mgal)	VOC Emissions (tpy)	Benzene Emissions (tpy)
Gasoline	11,260	- - --	3.9	21.96	0.033
Diesel	29,400	0.009	1.30E-2	0.19	Neg.
Kerosene	46,000	0.0085	1.23E-2	0.28	Neg.
Lube Oil	10,500	0.001	1.45E-3	0.01	Neg.
Crude Oil	38,325	9.0	1.50	28.72	Neg.
Total Loaded	135,485		Total VOCs	51.16	0.033

The methods that were used to estimate the VOCs and benzene emissions in the above table are outline in AP-42, Chapter 5.2 (July 2008). This writer verified the application's emission estimates associated with the loading of barges at the Marine Loading Dock. Assumptions that were made by the applicant were that the unclean barges were being loaded with light crude oil, such as ALSC with vapor pressure of 9 psia. These assumptions predicted VOC emissions on a conservative basis that the allowed the facility to have some operational flexibility will out exceeding these predicted emission rates.

By increasing the crude oil throughput through the storage tanks, storing and loading into barges a light crude oil, VOC emission potential to emit from these changes was predicted to be 35.01 tpy.

REGULATORY APPLICABILITY

Tanks 4060, 4061, 4062 and the Marine Loading Dock are not subject to any specific emission standard set forth in any state rule. These storage vessels are already subject to the control requirements of 40 CFR 60, Subpart Kb. Ergon has elected to use internal floating roof with mechanical shoe seal to meet this requirement under § 60.112(a) for these vessels. Ergon anticipates the true vapor pressure of the stored crude oil will not exceed 9.0 psia. Therefore, no additional level of control is required under Subpart Kb for these tanks and this modification does not change the applicability status concerning Subpart Kb.

The Newell facility is major source as defined under 45CSR14. Therefore, Ergon must ensure that these proposed changes as not result in stated in 45CSR§14-2.40. This project is predicted to increase the potential to emit of VOCs by 35.01 tpy, which is less than the 40 tpy significant level as stated in 45CSR§14-2.74.a. Thus, these proposed changes do not constitute a major modification and no major modification permit is required.

The facility is not a major source of hazardous air pollutants (HAPs) and these changes does not change this status. Concerning the facility's Title V operating permit under 45CSR30, Ergon will have to have the facility's operating permit updated to reflex this changes.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The facility has been received ALSC that has been mixed in with the rest of the crude oil gathered in this region. Thus, there will be no new HAPs emit from the facility as result from these changes.

AIR QUALITY IMPACTS ANALYSIS

This writer deemed that an air dispersion modeling study or analysis was not necessary, because the proposed modification does not meet the definition as a major modification as defined in 45CSR14.

MONITORING OF OPERATIONS

Permit R13-2334O requires Ergon to record the monthly throughput of oil through each of these tanks (Condition 7.3.1.). Condition 7.3.5. is from §60.116b (monitoring requirements of Subpart Kb), which requires Ergon to keep record of the maximum true vapor pressure of the

liquid being stored. This condition ensures Ergon is monitoring the maximum true vapor pressure of the crude oil in Tank 4062. Thus, no additional monitoring is required for this proposed modification.

However, Conditions 6.1.2. and 6.1.3. (Limitations for the Marine Loading Dock) of Permit R13-2334P needs to be combine into one condition that establishes emission limits be correlated to throughput limits instead of relying on calculations that used monthly throughput records. This would simply compliance determinations and the applicant would just have to calculate the annual emissions once per year for the emission inventory and Certified Emission Statements.

RECOMMENDATION TO DIRECTOR

Based on the application, it appears that the proposed modification to Permit R13-2334P for the Newell operated by Ergon West Virginia, Inc. will meet all applicable rules and regulations. Therefore, it is this writer recommendation to the Director that a modification permit pursuit to 45CSR13 for the loading of crude oil into barges from the Marine Loading Dock and storing ALSC in Tank 4062 to Ergon West Virginia, Inc. be grant to Ergon West Virginia, Inc.

Edward S. Andrews, P.E.
Engineer

Date: May 21, 2010